ABSTRACT

A method of performing additive synthesis of digital audio signals using a novel recursive digital oscillator includes the step of receiving digital audio signal frames wherein each digital audio signal frame includes a set of frequency, amplitude,

5 and phase components represented as coefficients of variables in a mathematical expression. Each digital audio signal frame thereby includes a frequency coefficient representation. Converted frequency coefficients are formed by linearly re-mapping the bits of the frequency coefficient representation and adding range extension via a shift amount in order to bias audio reproduction accuracy toward low frequency

10 signals. Additive synthesis is then performed with the converted frequency coefficients.